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IS 10648 (1983): Code for identification of ring type needle bearings (including sealed bearings) [PGD 13: Bearing]

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IS : 10648 - 1983

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Indian Standard

CODE FOR IDENTIFICATION OF RING TYPE NEEDLE BEARINGS (INCLUDING SEALED BEARINGS)

Rolling Bearings Sectional Committee, EDC 39; Panel for Needle Bearings, EDC 39/P-3 [Ref: Doc: EDC 39 (3661)]

1. Scope — Covers identification code to describe each ring type needle bearing on the basis of dimensional and functional interchangeability and to facilitate the communication between the user and the manufacturer.

2. Classification — Ring type needle bearings shall be classified in three major types:

Type I Radial needle bearings

Type II Needle thrust bearings

Type III Combined needle bearings

3. Symbols — Symbols for various types of ring type needle bearings, inner rings and thrust plates shall be as given in Table 1.

4. Identification Code

4.1 Inner rings used with the combined needle bearings shall be identified as given in Appendix A.

4.2 Separate thrust plates used with needle thrust bearings and combined needle bearings shall be identified as given in Appendix B.

5. Coding System

5.1 *Radial Needle Bearings*

5.1.1 Code number consists of two parts, the basic number and the supplementary number.

5.1.2 Basic number is further divided in two sections, Section I identifies the type of bearing by a group of letters or by combination of a group of letters and a group of numerals, representing a series for example light, medium, and heavy. Section II identifies the boundary dimensions or reference number by a group of numerals (*see* Table 2).

5.1.3 Supplementary number indicates special bearing requirements by a group of letters or combination of a letter and a numeral.

5.1.4 Boundary dimensions shall normally be represented by three groups of numerals indicating shaft diameter, housing diameter and width of the bearing Alternately, a group of numerals may indicate the shaft diameter or serial reference number in a series.

Examples:

1. Code number NB 20 28 20 EE conveys the following information:

NB — Ring type cage guided radial needle bearing without inner ring.
20 — 20 mm nominal bearing bore.
28 — 28 mm nominal housing diameter.
20 — 20 mm nominal bearing width, and
EE — Seals on both sides.

2. Code number NBI 15 28 16 conveys the following information:

NBI — Ring types, cage guided radial needle bearing with inner ring.
15 — 15 mm nominal shaft diameter.
28 — 28 mm nominal housing diameter, and
16 — 16 mm nominal bearing width.

Adopted 26 September 1983

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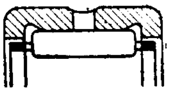
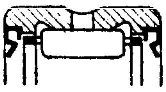
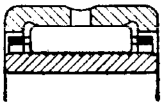
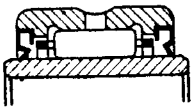
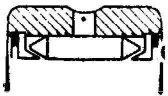
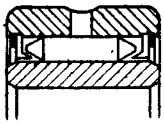
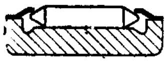
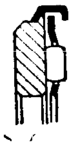
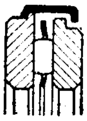
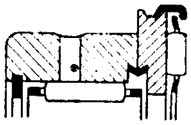
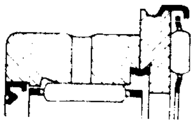
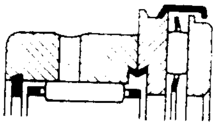
TABLE 1 TYPE IDENTIFICATION, FIGURES AND SYMBOLS FOR RING TYPE NEEDLE BEARINGS, INNER RINGS AND THRUST PLATES

(*Clause* 3)

	Type	Description	Figure	Symbol	
				Type	Special Feature
Ring Type Needle Bearing	Radial, Cage guided needles	Without inner ring		NB	
		Without inner ring, with oil seals		NB	EE
		With inner ring		NBI	
		With inner ring, with oil seals		NBI	EE
	Radial, Full compliment retained needles	Without inner ring		RNA	
		With inner ring		NA	
		Inverted		NAW	R 6
	Thrust	With one thrust plate		AX	
		With additional thrust plate		AX	Z
	Combined, radial and thrust	Standard		RAX	
		With oil seal		RAX	E
		With additional thrust plate		RAX	Z

(*Continued*)

TABLE 1 TYPE IDENTIFICATION, FIGURES AND SYMBOLS FOR RING TYPE NEEDLE BEARINGS, INNER RINGS AND THRUST PLATES — *Contd*

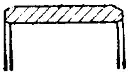
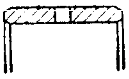
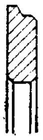
Type	Description	Figure	Symbol	
			Type	Special Feature
Inner rings	Standard		IM.. P	
	With oil hole		IMC...P	
Separate thrust plates	Standard		CP	

TABLE 2 SCHEMATIC ARRANGEMENT OF COMPLETE CODE NUMBER FOR RING TYPE RADIAL NEEDLE BEARING

(*Clause* 5.1.2)

Basic Number		**Supplementary Number**
Section I	Section II	
Type	Boundary Dimensions or Reference Number	Special Requirements
AAA or AAA 00	00 00 00	AA or A0

3. Code number RNA 1 03 0 conveys the following information:
   RNA — Ring type, full complement retained needles, radial bearing without inner ring.
   1 — Light series.
   30 — 30 mm nominal bearing bore.

4. Code number NA 2 0 30 conveys the following information:
   NA — Ring type, full complement retained needles, radial bearing with inner ring,
   2 — Medium Series, and
   30 — 30 mm nominal shaft diameter.

5. Code number NAW 20 28 R6 conveys the following information:
   NAW — Ring type, full complement retained needles, radial inverse bearing without outer ring;
   20 — 20 mm nominal shaft diameter;
   28 — 28 mm nominal bearing width; and
   R6 — Convex needle track.

5.2 *Needle Thrust Bearings*

5.2.1 Code number has been divided into two sections. Section I identifies the type of bearing and optional feature by a group of letters. Section II identifies the boundary dimensions by a group of numerals (*see* Table 3).

5.2.2 Symbol AX in Section I indicates needle thrust bearing having one thick thrust plate.

TABLE 3 SCHEMATIC ARRANGEMENT OF COMPLETE CODE NUMBER FOR NEEDLE THRUST BEARINGS WITH THICK THRUST PLATE

(*Clause* 5.2.1)

Section I		Section II
Type	Optional Feature	Boundary Dimensions
AA	A	00 00 00

5.2.3 Symbol Z in optional feature of section I indicates construction with additional retained thrust plate. Symbol indicating optional feature may be omitted when not required.

5.2.4 Boundary dimensions shall be indicated by a group of numerals representing thickness, shaft diameter and housing diameter, respectively.

Examples:

1. Code number AX 5 30 47 conveys the following information :

AX — Needle thrust bearing,
5 — 5 mm nominal thickness,
30 — 30 mm nominal shaft diameter, and
47 — 47 mm nominal housing diameter.

2. Code number AX Z 8 25 43 conveys the following information :

AX — Needle thrust bearing,
Z — Additional retained thrust plate,
8 — 8 mm nominal thickness,
25 — 25 mm nominal shaft diameter, and
43 — 43 mm nominal housing diameter.

5.3 *Combined Needle Bearing*

5.3.1 Code number has been devided into two parts, the basic number and the supplementary number.

5.3.2 Basic number is further divided in two sections. Section I identifies the type of bearing, optional features, if any, and construction by means of a group of letters followed by a group of numerals. Section II defines the boundary dimensions by a group of numerals (*see* Table 4).

TABLE 4 SCHEMATIC ARRANGEMENT OF COMPLETE CODE NUMBER OF RING TYPE COMBINED NEEDLE BEARINGS

Basic Number				Supplementary Number
Section I			Section II	
Type	Optional Features	Construction	Boundary Dimensions	Special Requirement
A A A	AA	0	0 0	A

5.3.3 Supplementary number indicates special bearing requirement by a letter. It may be omitted, if not required.

5.3.4 Letter symbol indicating optional feature may be omitted, if not required.

Examples:

1. Code number RAX 4 25 E conveys the following information:

   RAX — Combined needle bearing.
   4 — Ring type construction,
   25 — 25 mm nominal bearing bore, and
   E — Built in oil seal.

2. Code number RAX Z 4 30 conveys the following information:

   RAX — Combined needle bearing,
   Z — Additional retained thrust plate
   4 — Ring type construction, and
   30 — 30 mm nominal bearing bore.

APPENDIX A

(*Clause* 4.1)

IDENTIFICATION CODE FOR INNER RINGS USED WITH RING TYPE COMBINED NEEDLE BEARINGS

A-1. Code number is divided in two parts, basic number and supplementary number.

A-2. Basic number is further divided in two sections. Section I identifies the type and optional feature by a group of letters. Section II identifies boundary dimensions by a group of numerals (*see* Table 5).

TABLE 5 SCHEMATIC ARRANGEMENT OF CODE NUMBER FOR INNER RING USED WITH RING TYPE COMBINED NEEDLE BEARINGS

Basic Number			Supplementary Number
Section I		Section II	
Type	Optional Feature	Boundary Dimensions	
AA	A	00 00 00	A

A 3. Symbol IM in type, Section I and symbol P in the supplementary number identifies inner rings for combined needle bearings.

A-4. Symbol C in optional feature identifies oil hole. It may be omitted if not required.

A-5. In section II boundary dimensions are defined by three groups of numerals indicating inside diameter, track diameter and width of the inner ring.

Examples:

i) Code number IM 20 25 20P conveys the following information:

   IM...P — Inner ring for combined needle bearing,
   20 — 20 mm nominal inside diameter,
   25 — 25 mm nominal track diameter, and
   20 — 20 mm nominal width.

ii) Code number IMC 25 30 20P conveys the following information:

   IM...P — Inner ring for combined needle bearing,
   C — With oil hole,
   25 — 25 mm nominal inside diameter,
   30 — 30 mm nominal track diameter, and
   20 — 20 mm nominal width.

APPENDIX B

(*Clause* 4.2)

IDENTIFICATION CODE FOR SEPARATE THRUST PLATES USED WITH RING TYPE THRUST AND COMBINED NEEDLE BEARINGS

B-1. Code number is divided into two sections. Section I identifies type by a group of letters. Section II identifies boundary dimensions by a group of numerals (*see* Table **6**).

TABLE 6 SCHEMATIC ARRANGEMENT OF CODE NUMBER FOR SEPARATE THRUST PLATES USED WITH RING TYPE THRUST AND COMBINED NEEDLE BEARINGS

Section I	Section II
Type	Boundary Dimensions
AA	00 00 00

B-2. Symbol CP indicates type in Section I.

B-3. Boundary dimensions are defined by group of numerals indicating plate thickness, inside diameter and outside diameter.

Example:

Code number CP 3 20 35 conveys the following information:

CP — Separate thrust plate for thrust and combined needle bearings,
3 — 3 mm nominal thickness,
20 — 20 mm nominal inside diameter, and
35 — 35 mm nominal outside diameter.

EXPLANATORY NOTE

Code for indentification of rolling bearings is covered in IS : 2398 - 1967 ' Identification code for rolling bearing ', and code for identification of shall type needle bearings (including sealed bearing) is covered in IS : 9619-1980 'Identification code for shell type needle bearings (including sealed bearing)'.

Printed at Arcee Press, New Delhi, India